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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,012	11/14/2003	Yoichi Sato	03560.003393	7802

5514 7590 03/06/2007  
FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER
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DURNFORD-GESZVAIN, DILLON

ART UNIT	PAPER NUMBER
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2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/06/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/712,012

Applicant(s)

SATO, YOICHI

Examiner

Dillon Durnford-Geszvain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. Claims **3** and **6** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

2. Claim **3** recites the limitation "the optical black area" in line 5. There is insufficient antecedent basis for this limitation in the claim. To overcome this rejection claim **1** would need to be amended to include reference to an optical black area or claim **3** could be amended to depend from claim **2**.

For the sake of a complete examination, the Examiner will consider claim **3** as though it depends from claim **2**.

3. Claim **6** claims that a fourth mode acquires correction data after a completion of a first mode and then that data is used to correct image data obtained in a third mode. This renders the claim indefinite as it is unclear how correction data acquired in correspondence to a first mode can be used to correct image data obtained in a third mode.

The Examiner believes that what was intended to be claimed was that the fourth mode acquires correction data after a third mode and it will be interpreted that way by the Examiner.

Further, claim **6** recites the limitation "the common correction data obtained in the fourth mode" in line 9. There is insufficient antecedent basis for this limitation in the

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claim. For the sake of complete examination, the Examiner will interpret the correction data acquired in the fourth mode to be this "common correction data."

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim **1, 4 and 5** are rejected under 35 U.S.C. 102(e) as being anticipated by US 7,136,100 (Kato et al.).

As to claim **1**, Kato et al. teaches an imaging device comprising: a photoelectric conversion area 14 (see Fig. 2) including a plurality of photoelectric converters 14a; a controller 25 for controlling a first mode for continuously acquiring image data by multiple object imaging operations including an imaging operation with multiple different storage times and a second mode for continuously acquiring correction data acquired in the multiple different storage times with the photoelectric conversion area shielded, after the first mode; and an image processor for correcting the image data by using the correction data (Column 9 lines 55-60).

As to claim **4**, see the rejection of claim **1** and note that Kato et al. further

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teaches an imaging device according to claim 1, wherein, in the second mode, the controller continuously acquires the correction data in the same order as that of the imaging operation with the multiple different storage times in the first mode and in the order of the storage time (Column 9 lines 55-60 and note that the dark frame is read out after the image frame).

As to claim 5, see the rejection of claim 1 and note that Kato et al. further teaches an imaging device according to claim 1, wherein, in the second mode, the controller acquires the correction data in ascending order in storage time (Column 9 lines 55-60).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over 7,136,100 (Kato et al.) in view of US 6,101,287 (Corum et al.).

As to claim 2, what Kato et al. does not teach is an optical black area and where the image data is corrected with data from the optical black area.

However, Corum et al. teaches an imager with an optical black area (shown shaded in Fig. 3) and that the data from the optical black area is used in conjunction

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with dark frame data to correct an image (Column 3 lines 11-18).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an optical black area as taught by Corum et al. to correct the image data as acquired by Kato et al. as this would result in even better image quality than subtracting a dark frame alone would.

As to claim 3, see the rejection of claim 2 and note that Kato et al. further teaches that the plurality of photoelectric converters 14a are arranged in two dimensions (see Fig. 2) and are read out sequentially on a line-by-line basis (Column 5 lines 60-61) and if it were combined with Corum et al. as described in the rejection of claim 2 the combination of Kato et al. and Corum et al. would teach that the optical black area is arranged in the area of plural lines that are read out first (See Fig. 3 of Corum et al.).

Note that this rejection was made in light of the rejection of claim 3 above under 35 USC 112.

As to claim 6, see the rejection of claim 1 and note that what Kato et al. does not specifically teach is a third mode where multiple object imaging operations are carried out with the same storage time and a fourth mode for acquiring common correction data after completion of the third mode.

However, Corum et al. teaches a mode for continuously acquiring image data by multiple object-imaging operations with the same storage time (see Fig. 5 and Column 5

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lines 1-18) and a mode for acquiring a common dark frame for all the captured images (Column 5 lines 1-18).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added these modes as taught by Corum et al. to the invention taught by Kato et al. as this would alleviate the need for capturing a dark frame for each frame of a sequence of frames with the same capture time as they should all have the same dark current characteristics.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571) 272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

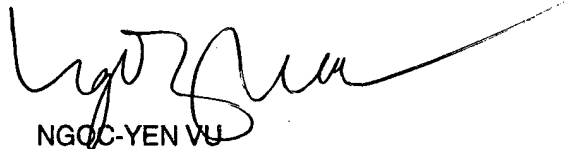
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain

2/22/2007

A handwritten signature in black ink, appearing to read 'Ngoc-Yen Vu', with a long horizontal stroke extending to the right.

NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER